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EXAMINER
SHIMIZU, MATSUICHIRO

ART UNIT	PAPER NUMBER
2635	

DATE MAILED: 02/24/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/658,016	BANN, GARY	
	Examiner	Art Unit	
	Matsuichiro Shimizu	2635	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *08 September 2003*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-47* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-47* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *08 September 2003* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date *9/8/03*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

Claim Objections

Claim 14 is objected to because of the following informalities: objection to claim 14 as being an improper dependent claim-a claim cannot depend from itself. Appropriate correction is required.

Drawings

The drawings are objected to as failing to comply with 37 CFR 1.84(p)(5) because they do not include the following reference sign(s) mentioned in the description:

A wireless communication device 13 (specification-line 1, page 8) is not shown in the figure 3.

Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The replacement sheet(s) should be labeled "Replacement Sheet" in the page header (as per 37 CFR 1.84(c)) so as not to obstruct any portion of the drawing figures. If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

The changes made to 35 U.S.C. 102(e) by the American Inventors Protection Act of 1999 (AIPA) and the Intellectual Property and High Technology Technical Amendments Act of 2002 do not apply when the reference is a U.S. patent resulting directly or indirectly from an international application filed before November 29, 2000. Therefore, the prior art date of the reference is determined under 35 U.S.C. 102(e) prior to the amendment by the AIPA (pre-AIPA 35 U.S.C. 102(e)).

Claims 1-6, 10-22, 24-31 and 36-40 and 44-47 are rejected under 35 U.S.C. 102(e) as being anticipated by Horwitz et al. (6,496,804).

Regarding claim 1, Horwitz teaches A method for determining a location of a vehicle in a controlled area, comprising:

receiving RFID tag information (Fig. 4, 106) from a first RFID interrogator (Fig. 4, first RFID interrogator 114b); and determining the location (col. 10, lines 16-35, pin-point the location of forklift via location tag 106) of the vehicle using the received RFID tag information; and receiving RFID tag information from a second RFID interrogator (Fig. 4, 114a, second RFID interrogator) mounted on the vehicle.

Regarding claim 2, Horwitz teaches the method of claim 1, wherein the information received from each of the RFID interrogators

comprises information received from a plurality of RFID tags (Fig. 5, transponder 106).

Regarding claim 3, Horwitz teaches the method of claim 2, wherein the RFID tag information comprises a unique identifier (col. 10, lines 16-35, information from location tags 106 suggests unique identifier) for each of the plurality of RFID tags.

Regarding claim 4, Horwitz teaches the method of claim 3, wherein determining the location comprises mapping the unique identifiers (Fig. 5, col. 10, lines 16-35, information from location tags 106 in array configuration to be mapped) to stored coordinates.

Regarding claim 5, Horwitz teaches the method of claim 1, wherein determining the location comprises determining a present location for the vehicle (col. 10, lines 16-35, pin-point the location of folklift) based on the information received from the first RFID interrogator.

Regarding claim 6, Horwitz teaches the method of claim 5, wherein the present location of the vehicle is used to track the location of an item (col. 10, lines 9-35, location of item 102 on the folklift is suggested by location of the folklift) being transported by the vehicle.

Regarding claim 10, Horwitz teaches the method of claim 1, further comprising storing the received information along with a time stamp (col. 10, lines 36-39, col. 11, lines29-33, time stamp) determine a speed of the vehicle (col. 12, line 56 to col. 13, line7, a speed is

anticipated via scheduling and routing of items throughout the facility by the central database).

Regarding claim 11, Horwitz teaches the method of claim 1, farther comprising detecting an event and updating a location for an item (Fig. 4, sensor or interrogator 114b detecting event of responding location tags; col. 10, lines 9-39, location of tagged items 102 having time stamp in the warehouse database 113) being transported by the vehicle in response to the detected event and based on the information received from the RFID interrogators.

Regarding claim 12, Horwitz teaches the method of claim 1, further comprising transmitting a request for information to the vehicle (col. 12, line 56 to col. 13, line7, scheduling and routing of items throughout the facility by the central database is equivalent to requesting the interrogators or folklift 110 to flow the RFID item 102), wherein the information received by the RFID interrogators is received in response to the transmitted request.

All subject matters in claim 18 are disclosed in claim 1, and therefore rejection of the subject matters expressed in claim 18 are met by references and associated arguments applied to rejection of claim 1.

Regarding claim 19, Horwitz teaches the location authority of claim 18, wherein the RFID tag information comprises a unique identifier (col. 6, lines 16-19, unique tag ID) for each of a plurality of RFID tags.

Regarding claim 20, Horwitz teaches the location authority of claim 19, wherein the processing unit is configured to determine the location by mapping the unique identifiers to stored coordinates (Fig. 4, col. 12, lines 65 to col. 13, line 7, locate the unique tag in the warehouse).

Regarding claim 21, Horwitz teaches the location authority of claim 18, wherein the processing unit is further configured to determine a present location of the vehicle based on the information received from the first RFID interrogator (Fig. 5, col. 10, lines 16-35, information from location tags 106 in array configuration to be mapped).

Regarding claim 22, Horwitz teaches the location authority of claim 21, wherein the processing unit is further configured to use the present location of the vehicle to track the location of an item being transported by the vehicle (Fig. 4, col. 12, lines 65 to col. 13, line 7, locate the unique tag in the warehouse in real time).

Regarding claim 26, Horwitz teaches the location authority of claim 18, wherein the processing unit is further configured to associate a time stamp with the received RFID tag information and to store the received information along with the time stamp (Fig. 4, col. 12, lines 65 to col. 13, line 7, locate the unique tag in the warehouse in real time).

Regarding claim 27, Horwitz teaches the location authority of claim 26, wherein the processing unit is further configured to use the stored time stamps (col. 10, lines 36-39, col. 11, lines29-33, time

stamp) to determine a speed of the vehicle (col. 12, line 56 to col. 13, line 7, a speed is anticipated via scheduling and routing of items throughout the facility by the central database).

Regarding claim 28, Horwitz teaches the location authority of claim 18, wherein the communication interface is further configured to receive event information, and wherein the processing unit is further configured to update a location for an item being transported by the vehicle in response to the detected event and based on the information received from the RFID interrogators (col. 12, line 56 to col. 13, line 7, scheduling and routing of items throughout the facility by the central database in real time).

Regarding claim 29, Horwitz teaches the location authority of claim 18, wherein the processing unit is further configured to generate a request for information and to transmit the request through the communication interface to the vehicle, and wherein the information received from the RFID interrogators is received in response to the transmitted request (col. 12, line 56 to col. 13, line7, scheduling and routing of items throughout the facility by the central database is equivalent to requesting the interrogators or folklift 110 to flow the RFID item 102).

All subject matters in claims 36 are disclosed in claims 1 and 11 and therefore rejection of the subject matters expressed in claims 37 are

met by references and associated arguments applied to rejection of claims 1 and 11.

Regarding claim 13, Horwitz teaches a vehicle configured to transport an item (col. 12, line 65 to col. 13, line 7, tracking a tagged item in a real time) within a controlled area (col. 12, line 65 to col. 13, line 7, facility), the vehicle (Fig. 5, vehicle 110) comprising:

a first RFID interrogator (Fig. 4, first interrogator 114b) configured to receive information from a plurality RFID tags installed in the controlled area:

a second RFID interrogator (Fig. 4, second interrogator 114a) configured to receive information from the plurality of RFID tags,

the first and second RFID interrogators separated by a distance (Fig. 4, distance between interrogators 114a and 114b related to separation of location tags 106) that is related to the distance between each of the plurality of RFID tags (Fig. 4, separation of location tags 106).

Regarding claim 14, Horwitz teaches the vehicle of claim 13, further comprising a wireless communication device coupled with the first and second RFID interrogators, the wireless communication device configured to receive RFID tag information from the first (Fig. 4, communication link between antenna114b and tag antenna 106) and second (Fig. 4, communication link between antenna114a and tag antenna 102) RFID interrogators and to transmit the received RFID tag

information over a wireless communication link (Fig. 4, communication link between antenna118 and antenna 120).

Regarding claim 15, Horwitz teaches the vehicle of claim 14, wherein the wireless communication device is further configured to receive a request for information over the wireless communication link(col. 12, line 58 to col. 13, line 7, scheduling and routing of items 102 anticipates processor 112 tracking the item or control via request to and response from items).

Regarding claim 16, Horwitz teaches the vehicle of claim 15, wherein the wireless communication device is further configured to receive RFD tag information from the first and second RFD interrogators in response to the received request to for information and to transmit the received RFID tag information over the wireless communication link (col. 12, line 58 to col. 13, line 7, scheduling and routing of items 102 anticipates processor 112 tracking the item or control via request to and response from items).

Regarding claim 17, Horwitz teaches the vehicle of claim 15, further comprising a sensor (Fig. 4, sensor or interrogator 114b detecting event of responding location tags; col. 10, lines 9-39, location of tagged items 102 having time stamp in the warehouse database 113) coupled with the wireless communication device, the sensor (Fig. 4, sensor or interrogator 114b detecting event of responding location tags; col. 10, lines 9-39, location of tagged items 102 having time stamp in the

warehouse database 113) configured to sense the occurrence of an event and communicate the occurrence of the event to the wireless communication device (Fig. 4, link 122 between 114b and 106), the wireless communication device further configured to transmit the occurrence of the event over the wireless communication link (fig. 4, link between antennas 120 and 118).

Regarding claim 30, Horwitz teaches a system for determining the location of an item within a controlled area, the system comprising:

a plurality of RFID tags (Fig. 5, plurality of transponders or tags 106);

a vehicle (Fig. 5, vehicle 110) configured to transport the item, the vehicle comprising:

a first RFID interrogator (Fig. 4, first interrogator 114b) configured to receive information from the plurality RFID tags (Fig. 5, plurality of transponders or tags 106),

a second RFD interrogator (Fig. 4, first interrogator 114b) configured to receive information

from the plurality of RFID tags (Fig. 5, plurality of transponders or tags 106),

and

a location authority (Fig. 4, warehouse database 112) configured to track the location the item , the location authority (Fig. 4, col. 10, lines

30-35, warehouse database 112 with location data of forklift 110 via tag location 106) comprising:

a communication interface (col. 10, lines 30-32, rf modem) configured to receive RFID tag information from the first, and

a processing unit configured to determine the location (col. 10, lines 16-35, pin-point the location of forklift via location tag 106) of the vehicle using the received RFID tag information.

Regarding claim 31, Horwitz teaches the system of claim 30, wherein the first and second RFID interrogators separated by a distance that is related to the distance (Fig. 4, distance between interrogators 114a and 114b) between each of the plurality of RFID tags.

Regarding claim 37, Horwitz teaches the system of claim 30, wherein the RFID tag information comprises a unique identifier for each of a plurality of RFID tags (col. 10, lines 16-35, information from location tags 106 contains

unique identifier).

Regarding claim 38, Horwitz teaches the system of claim 37 further comprising a database configured to store coordinates for each of the plurality of RFID tags, and wherein the processing unit is configured to determine the location of the vehicle by mapping the unique identifiers to the stored coordinates (Fig. 5, col. 10, lines 16-35, information from location tags 106 in array configuration to be mapped).

Regarding claim 39, Horwitz teaches the system of claim 30, wherein the processing unit is further configured to determine a present location for the vehicle based on the information received from the first RFID interrogator (col. 10, lines 16-35, pin-point the location of folklift).

Regarding claim 40, Horwitz teaches the system of claim 39, wherein the processing unit is further configured to use the present location of the vehicle to track the location of the item being transported by the vehicle (col. 10, lines 9-35, location of item 102 on the folklift is suggested by location of the forklift).

Regarding claim 44, Horwitz teaches the system of claim 30, further comprising a database, wherein the processing unit is further configured to associate a time stamp with the received RFID tag information and to store the received information along with the time stamp in the database (time-stamped location RFID tags in matrix configuration (Fig. 5, col. 10, lines 36-39, time-stamped location of tags 106), and determining a complete trail of the cluster (col. 11, lines 34-49, trail of the items).

Regarding claim 45, Horwitz teaches the system of claim 44, wherein the processing unit is further configured to use the stored time stamps (col. 10, lines 36-39, col. 11, lines29-33, time stamp or when the item was received, and using the stored time stamps) to determine a speed of the vehicle (col. 12, line 56 to col. 13, line 7, a speed is

anticipated via real time scheduling and routing of items throughout the facility by the central database).

Regarding claim 46, Horwitz teaches the system of claim 30, wherein the communication interface is further configured to receive event information from the vehicle, and wherein the processing unit is further configured to update a location for the item (col. 10, lines 9-15, location of item 102 on the located folk-lift 110) being transported by the vehicle in response to the detected event and based on the information received from the RFID interrogators (col. 12, line 56 to col. 13, line7, scheduling and routing of items throughout the facility by the central database is equivalent to requesting the interrogators or folklift 110 to flow the RFID item 102).

Regarding claim 47, Horwitz teaches the system of claim 30, wherein the processing unit is further configured to generate a request for information and to transmit the request through the communication interface to the vehicle, and wherein the information received from the RFID interrogators is received in response to the transmitted request (col. 12, line 58 to col. 13, line 7, scheduling and routing of items 102 anticipates processor 112 tracking the item or control via request to and response from items) .

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claims 7-9, 23-23, 32-36 and 41-43 are rejected under 35 U.S.C. 103(a) as being unpatentable over Horwitz et al. (6,496,804).

Regarding claims 7-9, Horwitz teaches, in the art of locating system, the method of claim 1, further comprising determining a complete trail of the cluster of items (col. 11, lines 34-49, trail of the items) by location tags embedded in the floor. But Horwitz does not teach a direction of the vehicle based on the information received from both of the RFID interrogators; the direction further comprises determining a present location for both of the RFID interrogators and comparing it with a stored last location for both of the interrogators, and a directional angle based on the information received from both of the RFID interrogators and increasing the accuracy of the determined direction using the determined directional angle.

However, clearly one of ordinary skilled in the art can easily determine a direction of the vehicle, wherein real time tracing of vehicle track on the matrix of Horwitz (fig. 5) suggests direction associated with del x and del y over the associated matrix coordinate-x and y, based on the information received from both of the RFID interrogators; the direction further comprises determining a present location for both of the RFID interrogators and comparing it with a stored last location for both of the interrogators, wherein real time tracing of

vehicle track on the matrix of Horwitz (fig. 5) suggests previous location (x,y) stored in the database generating tracing of vehicle location), and a directional angle based on the information received from both of the RFID interrogators and increasing the accuracy of the determined direction using the determined directional angle, wherein real time tracing of vehicle track on the matrix of Horwitz (fig. 5) suggests angle provided with arctangent of del y divided by del x over the associated matrix coordinate-x and y if one so desire. Therefore, it would have been obvious to a person skilled in the art at the time the invention was made to include a direction of the vehicle based on the information received from both of the RFID interrogators; the direction further comprises determining a present location for both of the RFID interrogators and comparing it with a stored last location for both of the interrogators, and a directional angle based on the information received from both of the RFID interrogators and increasing the accuracy of the determined direction using the determined directional angle in the device of Horwitz because Horwitz suggests location RFID tags in matrix configuration (Fig. 5, tags 106), and determining a complete trail of the cluster of items and one skilled in the art easily determine a direction of the vehicle based on the information received from both of the RFID interrogators; the direction further comprises determining a present location for both of the RFID interrogators and comparing it with a stored last location for both of the interrogators, and a directional angle based on the information received from both of the RFID interrogators and increasing the accuracy of the determined direction using the determined directional angle if one so desire.

All subject matters in claims 23-25 are disclosed in claims 1 and 7-8, and therefore rejection of the subject matters expressed in claims 23-25 are

met by references and associated arguments applied to rejection of claims 30 and 7-8.

All subject matters in claims 32-35 are disclosed in claims 30 and 7-8, and therefore rejection of the subject matters expressed in claims 32-35 are met by references and associated arguments applied to rejection of claims 30 and 7-8.

All subject matters in claim 41 are disclosed in claim 7, and therefore rejection of the subject matters expressed in claim 41 are met by references and associated arguments applied to rejection of claim 7.

All subject matters in claims 42-43 are disclosed in claims 8-9, and therefore rejection of the subject matters expressed in claims 42-43 are met by references and associated arguments applied to rejection of claims 8-9.

Regarding claims 36, Horwitz teaches the system of claim 32, wherein the vehicle further comprises a sensor (Fig. 4, sensor or interrogator 114b detecting event of responding location tags; col. 10, lines 9-39, location of tagged items 102 having time stamp in the warehouse database 113) coupled with the wireless communication device, the sensor (Fig. 4, sensor or interrogator 114b detecting event of responding location tags; col. 10, lines 9-39, location of tagged items 102 having time stamp in the warehouse database 113) configured to sense the occurrence of an event and communicate the occurrence of the event to the wireless communication device(Fig. 4, link 122 between 114b and 106), the wireless communication device further configured to transmit the occurrence of the event over the wireless communication link (fig. 4, link between antennas 120 and 118) , the wireless communication device further configured to transmit the occurrence of the event over the wireless

communication link to the server (col. 1, lines 13-30, server associated with communication among distribution centers or warehouses).

Contact Information

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Matsuichiro Shimizu whose telephone number is 571-272-3066. The examiner can normally be reached on Monday through Friday from 8:00 AM to 4:30 PM. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Michael Horabik, can be reached on 571-272-3068. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9314.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703-305-8576).

Matuichiro Shimizu

February 18, 2005

MICHAEL HORABIK
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